

Gravitational Acceleration

Name _____ ID _____ TA _____

Partners _____

Date _____ Section _____

- **Conceptual Discussion** (Discuss this with your lab partners.)

List at least three properties of gravitational acceleration.

1.

2.

3.

1. Test for the effect of air friction

Distance of fall, $d =$ _____ (m)

$$\text{Acceleration} = 2d/t^2$$

Object	Fall Time (Stop Watch)	Acceleration (Stop Watch)	Fall Time (Photogate)	Acceleration (Photogate)
Coffee Filter			/	/

- How does the air friction affect the freely falling objects?
- Does stopwatch measurement give you an accurate result?

2. Gravitational acceleration g :

Object: _____

1	2	3
Falling distance, d (m)	Fall time, t (Photogate)	Acceleration, $\frac{2d}{t^2}$

What is the average of the last column? _____

- Compare your results with each other and with the expected value (9.8 m/s^2).